

REMARKS

In sections 1 and 2 of the Office Action, the Examiner rejects claims 2, 3, 5, 6, 22, and 23 under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner objects to the phrase "wherein the mixer comprises: a filter . . .; and a mixer" as rendering the claims indefinite because Figure 2 shows the mixer and filter as separate entities.

These claims have been suitably amended.

In sections 3 and 4 of the Office Action, the Examiner rejects claims 1-3, 5, 6, 15, 19, 22, and 23 under 35 U.S.C. §102(b) as being anticipated by Horigome.

Horigome shows in Figure 1 a receiver front end having an automatic gain control (AGC) circuit 34. An output signal A of an antenna tuning stage 1 upstream of an RF amplifier 2 is used to control an attenuator 20. The output signal A is amplified by an amplifier 7 and the amplitude of the amplified output signal A is detected by a detector 11. When the detected amplitude exceeds a reference voltage V1, an AGC driver 13 outputs a drive signal to an adder 19.

An output signal B from a tuning stage 3 and an output signal C from a mixer 4 are amplified by amplifiers 8 and 9, respectively, and the amplified

signals B and C are added by an adder 10. The amplitude of the sum of the amplified signals B and C is detected by an amplitude detector 12. When the amplitude of the sum of the amplified signals B and C exceeds a reference voltage V2, an AGC driver 14 outputs a drive signal to the adder 19 and to the RF amplifier 2.

As shown in Figure 2 of Horigome, a controller 23 outputs a high level signal (LOC) to a transistor 22 to turn ON the transistor 22 so that a second gate of the RF amplifier 21 is controlled whereby the gain of the RF amplifier 21 is lowered by a predetermined amount. An IF amplifier 30 detects the electric field strength level at the output of an IF filter 5. If the electric field strength level is greater than a reference V6 as determined by a comparator 31, the controller 23 controls the RF amplifier 21 to attenuate the input signal by a predetermined amount. Alternatively, the reference V1 may be raised so as to suitably control the attenuator.

Independent claim 1 - As can be seen, Horigome does not disclose a feedback amplifier and a feedback such that the feedback amplifier provides first and second outputs representing the power of the attenuated signal and such that the feedback is coupled to control

the attenuation provided by a signal level controller in response to the power of the attenuated signal.

Indeed, Horigome does not show or disclose using the power of the attenuated signal to control attenuation.

The Examiner points to the RF amplifier 21 in Figures 2 and 6 as the feedback amplifier of independent claim 1. However, no signal is produced by the RF amplifier 21 that indicates the power of the attenuated signal. To be sure, the amplitude of the signal A is detected by the detector 11, and the amplitude of the sum of the signals B and C is detected by the detector 12. However, there is no indication that these amplitudes are power amplitudes.

To the contrary, there is every indication that these amplitudes are voltage amplitudes rather than power amplitudes. For example, the use of the voltage references V1, V2, and V6 indicate that Horigome develops only voltage signals.

Furthermore, Horigome does not suggest using power to control the attenuator 20. For example, Horigome does not develop both current and voltage signals such that power can be used to control the attenuator 20.

As can be seen, Horigome simply does not teach the use of power to control attenuation in a tuner.

Accordingly, because Horigome does not teach the use of power to control attenuation in a tuner, independent claim 1 is not anticipated by Horigome.

Because independent claim 1 is not anticipated by Horigome, dependent claims 2, 3, 5, 6, and 15 likewise are not anticipated by Horigome.

Independent claim 19 - As can be further seen, Horigome does not disclose developing a signal representing the power of an attenuated signal, and controlling attenuation of an RF signal in response to the signal representing the power of the attenuated signal.

Accordingly, because Horigome does not teach the use of power to control attenuation in a tuner, independent claim 19 is not anticipated by Horigome.

Because independent claim 19 is not anticipated by Horigome, dependent claims 22 and 23 likewise are not anticipated by Horigome.

In addition, dependent claims 2, 5, and 22 further recite filtering of a signal from the amplifier and mixing the filtered signal with the local oscillator signal.

Horigome does not show a filter upstream of the mixer 4 so that the mixer 4 can mix an output of a filter with the local oscillator signal 6. The filter 5 described in Horigome is instead downstream of the mixer 4.

Accordingly, for this reason also, dependent claims 2, 5, and 22 are not anticipated by Horigome.

Dependent claims 3, 6, and 23 provide that the filter is a broadband filter. Horigome does not disclose that the filter 5 is a broadband filter.

Accordingly, for this reason also, dependent claims 3, 6, and 23 are not anticipated by Horigome.

In section 6 of the Office Action, the Examiner rejected claims 16, 17, 35, 36, and 37 under 35 U.S.C. §103(a) as being unpatentable over Horigome.

One of ordinary skill in the art would not understand Horigome to suggest the use of power to control attenuation in a tuner. Therefore, independent claims 1 and 19 are not unpatentable over Horigome. Because independent claims 1 and 19 are not unpatentable over Horigome, dependent claims 16, 17, 35, 36, and 37 cannot be unpatentable over Horigome.

CONCLUSION

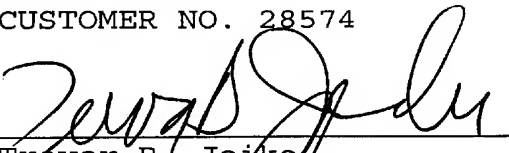
In view of the above, it is clear that the claims of the present application patentably distinguish over the art applied by the Examiner. Accordingly, allowance of these claims and issuance of the above captioned patent application are respectfully requested.

The Commissioner is hereby authorized to charge any additional fees that may be required, or to credit any overpayment, to account No. 26 0175.

Respectfully submitted,

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